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ABSTRACT

The purpose of this paper is to examine how a group of teachers came together to form a proactive culture, conducive to change, which assists them in achieving their ideals. The study is part of a programmatic effort to develop an understanding of how teachers make sense of teaching and of their struggles to change. Using semiotics as a base, the cognitive processes of teachers were examined by studying their use of words in their communication with colleagues. The study began in a teaching enhancement project in which the concept of a "family of schools" was developed; these "families" consisted of cooperating teachers from high, middle, and elementary schools who met periodically to discuss teaching and learning. As teachers from differing school cultures began to form families they negotiated new norms and customs of behavior, and the negotiation process was studied as the teachers established the cultures within their families. When the families met, interactions were audiotaped and fieldnotes were collected. These notes were compiled into summaries of the meetings. Conversations were transcribed and analyzed and assertions were formulated from categories which arose from the data. Three primary assertions resulted from analysis of meetings between the families: (1) communication occurs as teachers share problems and dilemmas of their own school culture and their personal teaching experiences and believe that other teachers are interested in what they are saying; (2) learning occurs as teachers struggle with meaning and negotiate purposes for meeting; and (3) introduction of alternative views and perturbing questions assists the teachers in reflecting on their own teaching beliefs and practices. (Thirteen references are attached.) (MG)

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Paper presented at the annual meeting of the American Educational Research Association, Chicago, April 1991.

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Communication for a Shared Understanding: The Role of Semiotics in Establishing a Culture for Change

Nancy T. Davis, B. Jo McCarty, Kenneth L. Shaw, Amal Sidani-Tabbaa

Introduction

Educational leaders and reformers are struggling to keep pace with a rapidly changing world. As we see it, one of the primary problems with the educational system is the reactiveness of almost everyone involved. Students react to assignments teachers give, teachers react to the demands of the principals, principals react to the district, the district reacts to the Department of Education, and the Department of Education reacts to the legislators. Who is taking the leadership role in education? A proactive role is essential at each level if we are to meet the demands of tomorrow. Moreover, making significant and worthwhile change is only attainable if teachers, who are most intimately involved with education of students, are helping to shape the direction of change.

The purpose of this paper is to examine how a group of teachers have come together to form a proactive culture which is conducive to change. The cognitive processes of teachers are examined by studying their use of language, as they struggle for purpose and consider alternative viewpoints.

Theoretical Framework

The study of semiotics is relatively new and there is still debate about whether it is or ever should be a distinct discipline (Sless, 1986). Sless (1986) described semiotics as a way to view the world rather than a discipline, "Semiotics occurs whenever we stand back from our ways of understanding and communication, and ask how these ways of understanding and communication arise, what form they take, and why" (p. 1).

Many semioticians view communication as shared understanding (e. g., Saussure, 1974; Williams, 1976). However, as Sless (1986) suggested, this view of communication is flawed because we can never know what someone else understands. Therefore, "communication is based not on the clear evidence of shared understanding but on the belief of shared understanding" (Sless, 1986 p. 19). This view is consistent with the epistemology of constructivism (von Glasersfeld, 1989) which maintains that individuals construct personal realities which are knowable only to themselves. Through the use of words and signs we are able to blur the boundaries between these individual realities. As we negotiate meanings of words we are also developing a belief that we are understanding the world similarly.

By carefully studying how teachers use words in their communication with colleagues we can develop an explanation of how they are understanding their worlds. Vocabulary provides

worthwhile clues to the way people define their situations; words indicate levels of trust, the nature of cohesiveness, state categories, identify authority structures, and reveal personal bias (Christians & Carey, 1981 p. 348). As we better understand the teachers' view of their world we are better able to interact with them. By seeking to understand their world view we assist teachers in becoming more critical of their own actions and thoughts about teaching.

Many educational researchers describe how individual teachers react to specific changes without any mention of the educational culture within which the changes are embedded. Understanding the cultural norms, taboos, and customs inform us on how, what, and why teachers change. To make significant changes in schools requires more than passing of legislation, curriculum mandates, or assessing teacher performance, it requires a shift in how teachers think about teaching and learning and what is acceptable within their culture. Assisting teachers to rethink their beliefs about teaching and learning is an intensive process which includes close examinations of and involvement in the context in which the teachers operate. The cultural perspective includes exploration of the beliefs, norms, and values of the participants in the culture. Tobin, Davis, Shaw and Jakubowski (in press) remarked:

> Curriculum theorists such as Grundy (1987), emphasized that a curriculum is embedded in culture. To describe and understand a curriculum, therefore, is to understand the culture of the schools in which the curriculum is implemented. . . . If the current cries for reform are to be heeded, it is essential that teachers are educated to reconstruct the curriculum that is most appropriate for their classrooms. (pp. 1-2)

But to what purpose should this reconstruction take place? Grundy (1987) delineated three human interests which shape curriculum: technical, practical and emancipatory. Technical interest are underlain by power and control. From the technical perspective, science is the search for truth and knowledge is used to control our environment including other human beings. Practical interests are guided by the motivation of developing understanding for interaction. From a practical viewpoint science is the search for connections and knowledge is used to interact with our environment including other human beings. Emancipatory interests are guided by the purpose of development of individual autonomy. From an emancipatory perspective science is critical analysis and knowledge is authenticity (Polanyi, 1962) which allows us to become empowered as individuals within a culture or community.

This study, which is part of a programmatic effort to develop an understanding of how teachers make sense of teaching and their struggles to change, is based on practical and emancipatory interests. Ideally, we envision teachers who develop into empowered professionals who would realize that they have choices to make in teaching, and that those choices make a

difference in student learning (emancipatory interests). In order to be competent decision-makers teachers must also understand how their students are making sense and be able to interact effectively with them (practical interests).

Setting

This study began in Bay County, Florida in 1989 as the Enhancement of Mathematics and Science Teaching Project (Shaw, Davis, McCarty, & Sidani-Tabbaa, 1990). In this project the concept of a "family of schools" was developed. A family of schools consists of cooperating high, middle, and elementary schools. Coordinating teachers from each of the schools volunteered to meet together periodically to discuss teaching and learning. Too often underlying myths about what is and is not acceptable within a culture hinders change (Tobin, 1991) but as teachers from differing school cultures began to form families they negotiated new norms and customs of behavior. The negotiation process was studied as the teachers established the cultures within their families.

Methodology

The purpose of this research is to develop an understanding of how teachers make sense of their teaching and develop a culture which assists them in achieving their ideals. "The purpose of conducting research can no longer be to ascertain truths about our universe, but to construct viable models for our experiences" (Tobin, 1990, p. 5). To do so necessitates utilization of interpretative research methodologies (Erickson, 1986). When the families met, members of the research team were present to audiotape the interactions and to collect fieldnotes. These notes were then compiled into summaries of the meetings. Conversations between teachers were transcribed and analyzed using coding techniques. Assertions were formulated from categories which arose from the data, which were further analyzed in team meetings and were then checked with individual teachers who confirmed data assertions.

Findings

Three primary assertions resulted from analysis of meetings between the families. These assertions are used to explain how teachers believed they achieved a shared understanding. This belief was necessary for them to critically examine their own teaching practices.

Assertion one: Communication occurs when teachers share problems and dilemmas of their own school culture and their personal teaching experiences and believe that other teachers are interested in what they are saying.

Teachers are often isolated from one another and build their language based on their own experiences within their schools. As teachers meet together they negotiate meanings for words. For example, several teachers from different schools were trying to understand a pilot mathematics program, Mathematics Achievement through Problem-Solving (MAPS).

Teacher 1: You know Pam has really used cooperative learning, it started out with the MAPS program . . . but from that [she has] gone into other classes like the liberal arts math, which is the algebra . . . .

Teacher 2: Can you briefly tell me what MAPS is?

(Simultaneous discussion as teachers try to remember the acronym)

Teacher 3: But it has something to do with problem-solving, a mathematical approach.

Teacher 2: What does it imply when somebody says they are doing the MAPS program?

Teacher 1: It is a huge book of xeroxed pages. . . a year course of general math.

Teacher 3: It is for the slower achieving students...it is supposed to be a more relevant-type of problem solving to get them more interested in math.

Teacher 4: Is it just general math?

Teacher 3: I think it is for the ones in the general track who have not been successful in math.

Teacher 4: We're talking Comp Ed?

Teacher 3: At Rutherford [High School] it is Comp Ed, at Mosley [High School] it is General Math II.

This conversation continued to explore differences between schools within the same county. In this exploration for meanings of words and for understanding of each other's school structure, teachers were negotiating for a shared understanding. One teacher took the risk of asking the meanings of terms and assisted in establishing the safety of asking such questions within the group. While conversations like this may appear inconsequential, they are extremely important in establishing communication.

Lack of communication also exists between elementary, middle, and high schools. Teachers need to engage in active dialogue to establish a shared view of problems. In the first meeting of one of the families the middle school and high school mathematics teachers began discussing the problems of placing students into algebra or pre-algebra. The secondary teachers expressed a concern that if students were not placed into algebra in the ninth grade, they would be unable to take advanced classes later in high school. The middle school teachers were not aware of what problems this placement eventually caused students and subsequently were not encouraging students to take algebra. Students' future educational possibilities are being affected by the choices that teachers make in placing them and the teachers had little understanding of the impacts of their placements.

As the teachers develop a belief in shared understanding, they negotiate meanings and build trust. Communication with one

another becomes important and they use meaning checking techniques in their conversations. Sprinkled throughout their conversations are questions which help to establish connections such as "Do you see my question?", "Did anybody give any more thought to what we were talking about?", "Do you all feel that way?" These meaning checking techniques became more frequent as the teachers developed the belief that others were genuinely listening to them and were valuing their comments.

In establishing an environment where teachers can share problems, the presence of a member who is a risk taker becomes critical. As that individual reveals his or her dilemmas about teaching, others identify with that individual and are encouraged to reveal their own problems. One teacher described problems she was having,

> I think we try to take them [students] to a too sophisticated level of chemistry. . . . Why aren't we investigating, is this magnetic or isn't it? Why aren't they doing the same thing elementary kids are doing, but learning more from it? What we do is treat them like, "Well, heck, you're 11th graders, you should handle some real chemistry. Let's talk about orbitals." They don't know what an orbital is. Now, granted, they have to experience it so they feel strong when they have to deal with it in college, and I am in a real dilemma with that. But if they understood minor things about metals and nonmetals when they left me they would be armed more strongly than having a bunch of facts that have no relationship. And I can see it in their faces.

Identifying with her problem the second teacher responded:

> It's the same thing in math, though. I feel like they leave here knowing a lot of individual little things, but they don't see how it all ties together.

As the teachers described their problems images of their own classrooms were used to interpret one another's words.

Another important component of establishing a belief in a shared understanding was that of complaining and gossip. While many may view these as trivial and negative, the "small talk" was important in developing communication. As the teachers shared complaints about students, administrators, and problems within their individual cultures they were able to develop a belief in shared understandings of each others' values and reactions to events. Through listening and watching one another's reactions to persons and events, individual teachers were able to establish common bonds.

Humor also played an important role in establishing communication. Teachers within a family joked with one another and kidded members of the research team. For example, when the teachers took over organizing and directing meetings, they often joked about our efforts to provide structure to meetings by establishing agendas. One member of the research team who was known for his organization received much of the brunt of this kidding. Teachers would ask if he had sent an agenda? This

joking played a role in creating bonds between the teachers as they negotiated for control in setting their own direction and revealed their efforts to establish their own control.

Assertion 2: Learning occurs as teachers struggle with meaning and negotiate purpose for meeting. The struggle can be seen as teachers are frustrated and confused about the reasons they are there.

Because the research project was designed to promote practical and emancipatory interests, the research team believed that the teachers should establish their own purposes for meeting. In each of the groups, there was an anxious period as teachers developed the understanding that the research team was not there to provide them with "answers." One teacher reflected on this period as confusion.

> The research team stuck to their guns - the project, and the vision was ours! We felt like we were drowning. Then we decided "it was sink or swim"; it was our choice. We chose to meet the challenge and accepted the responsibility. We decided if it got done, we'd have to do it - we swam. That's empowerment.

Another example of the negotiation for purpose occurred as the family of teachers decided they would undertake an across-grade level project. In meetings, they discussed an air pollution project, where the elementary students would place coffee filters on air conditioning units, the middle school students would create maps of collection sites and graph findings, and high school students would weigh and analyze the filters. However, many problems arose during the project because they lacked a shared understanding of why they were doing the project and how each teacher's classroom would contribute. The teachers have since spent time deliberating about the project idea and renegotiating the purpose of their meetings. One teacher started this renegotiation by summarizing what had happened,

> I think we went over what our vision was and then we jumped into a project on how to get middle school, high school, and elementary school involved in something. I'm concerned that we're not addressing the question of, "Why are we getting them involved?" It's like we see this need to get them involved with a project, but I'm confused as to why we're pushing that so fast and as to whether that will be beneficial until we understand the "why?" Why is it important for those kids to interact? Do we have an objective there, or do we just want them to interact? We could have a party on Saturday to do that. Do you see my question?

As the teachers reflected on the purpose of their meetings they negotiated and formulated a purpose for meeting. They committed themselves to analyzing the underlying meaning for meeting and for the action they decided to pursue. As they reflected on the

group's purpose, they began asking similar questions of their own teaching.

> The thing that I always go back to is the experience I had at one of the first meetings when [an elementary teacher] started to talk about how she was implementing problem-solving. That was like, "Wow! Your doing something I hadn't heard of." I don't feel like I know what each of you are doing because I am still searching for ideas. . . . I feel like I'm a good teacher, it's just--How do I make it better? How do I do things differently so they're not so normal, so ineffectively normal?

As the teachers began to reflect on their own beliefs and practices they were critically analyzing those beliefs and practices. They realized that they could change, and the changes would make a difference in student learning.

As teachers negotiated meaning with their colleagues they were searching to figure out their roles. This struggle is the learning process. The struggle, however, is not comfortable for the teachers or the research team. Some teachers have thought about dropping out of the project because they feel that there is no purpose. If teachers do not struggle with the purposes of teaching and learning then they are merely passive recipients of direction; they are disempowered as learners and actors. Through the struggle they can become empowered if they construct their own meaning and if they realize they have choices and can proactively make their culture whatever they design.

Assertion Three: Introduction of alternative views and perturbing questions assists the teachers in reflecting on their own teaching beliefs and practices.

Establishing the families across school boundaries allowed for presentation of alternative views of problems. As the teachers visited their colleagues' schools and listened to their descriptions of problems they were able to construct images and make suggestions to resolve problems. For example, a middle school mathematics teacher reported that he had given up on using cooperative learning because students were talking when he was trying to present content. However, as he discussed the situation, and answered others inquiries, he realized the students were learning much more than he could have presented through direct instruction. As the teachers questioned him about what was occurring in the class, he reflected on the situation and was able to view it in a different light. This re-presentation of the teaching episode, especially in view of someone else's critical questioning, allowed him to revisit events and interpret them differently. He could then chose which viewpoint was more valuable for him and his students.

The research team also had a role in introducing alternative perspectives to the teachers. As team members negotiated with one another they often mentioned reasons why they could not do what they wanted. The idea that constraints are personal

construction, and many are within an individual's power to change was presented to the teachers. Teachers listed constraints and were asked to decide who held the power to change that constraint. As teachers discussed their views, they were able to reconceptualize many of their own constraints as they realized that they could change what caused the constraint. For example, a commonly held belief was that teachers must cover the textbook. When the teachers begin to question this idea they discovered that no one really expected them to cover the entire text, the only requirements were state standards. Teachers then examined the state standards and found that many of those could easily be incorporated into their lessons, and that they had far more freedom in determining what they taught than they had imagined. As they discovered the choices they could make in teaching they became empowered teachers.

Discussion

Shaw et al. (1991) presented a model for change which included development of a commitment to change, development and projection into a vision, and reflection. As teachers establish a culture conducive to change they utilize these components of change. In developing a commitment and a vision, negotiation of meaning and reflection plays a critical role. As teachers have dialogue, they are reflecting on their own images and beliefs. By establishing cultures for change across established school cultural boundaries, teachers are provoked to put words to their images and are better able to reflect on their schools cultural norms and customs. Through negotiating meanings of words and concepts teachers are becoming reflective practitioners.

Several factors are necessary in developing a belief in shared understanding: common experiences, time and perturbations. As teachers meet together they have common experiences upon which to build communication. They experience common events and are more likely to construct similar meanings to those events. These similar meanings provide the basis for further communication. Experiencing common events, having conversations and negotiating meanings require time together. Even though many may think that small talk and socialization are a waste of time, they are necessary pre-requisites in establishing beliefs in shared understandings. By introducing questions which cause the teachers to reflect on their culture and meanings for words, a disequilibrium required for change in thought occurs. The social interaction is necessary but without the perturbation in thinking, the conversations remain at a trivial level.

If emancipatory education is to occur and teachers are to become empowered, reflective, professionals, efforts to change must focus on the individual and culture of the school. In this article we have examined the role of teacher dialogues in developing a belief in shared understanding. As educational reformers continue to attempt changes, they need to provide teachers with opportunities to develop the communication

necessary to reflect critically on their own beliefs and practices. Change in schools must begin with the individuals who work with students. Only teachers can assist students in developing understanding and autonomy.

References

Christians, C. G. & Carey, J. W. (1981). The logic and aims of qualitative research. In G. H. Stempell & B. H. Westley (Eds.) Research methods in mass communication. Englewood Cliffs, NJ: Prentice-Hall.

Davis, N. T., McCarty, B. J., Shaw, K. L., & Sidani-Tabbaa, A. (in press). Examining influence of constructivism on education: Theory and practice. International Journal of Science Education.

Davis, N. T., McCarty, B. J., Shaw, K. L., & Sidani-Tabbaa, A. (1991). Culture and Teacher Change. In M. M. Brown (Ed.), Proceedings of the Fourth Annual Conference of the Qualitative Interest Group. Athens, GA: University of Georgia.

Erickson, F. (1986). Qualitative research on teaching. In M. C. Wittrock (Ed.) Handbook of research on teaching (pp. 119-161). New York: Macmillan.

Grundy, S. (1987). Curriculum: Product or praxis. New York: Falmer Press.

McCarty, B. J., Davis, N. T., Shaw, K. L., & Hamby, G. (1991). Teacher empowerment and restructuring schools. Paper presented at the 11th Annual International Seminar for Teacher Education, Panama City, FL.

Polanyi, M. (1962). Personal knowledge: Towards a post-critical philosophy. London: Routledge & Kegan Paul.

Rossman, G. B., Corbett, H. D., & Firestone, W. A. (1988). Change and effectiveness in schools: A cultural perspective. Albany, NY: State University of New York Press.

Saussure, F. (1974). Course in general linguistics. Glasgow: Fontana/Collins.

Shaw, K. L., Davis, N. T., McCarty, B. J., & Sidani-Tabbaa, A. (1990, June). The Enhancement of Mathematics and Science Teaching Project. (Report to the Department of Education) Tallahassee, FL: Florida State University.

Sless, D. (1986). In search of semiotics. London: Croom Helm.

Tobin, K. G., Davis, N. T., Shaw, K. L. & Jakubowski, E. H. (in press). Enhancing science and mathematics teaching. Journal of Science Teacher Education.

Williams, R. (1976). Keywords. Glasgow: Croom Helm.